

REMARKS

Claims 52, 53 and 57-62 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,686,747 (Jost). The test structure set forth in claims includes a plurality of lines with a plurality of contact openings defined in the lines. The Office Action asserts that Jost teaches these features. To the contrary, Jost teaches a plurality of lines, with contact openings defined between the lines, not in the lines. The lines 12, 14, 16 extend into the page, the contact openings 32, 34 are formed in the insulative material between the lines to contact the underlying source/drain regions. During the formation of the contact openings 32, 34 a small portion of the contact opening is removed on the periphery of the contact opening. However, this portion is minimal as compared to the cross section of the contact opening. The purpose of the contact opening is to contact the source/drain regions between the lines, and the portion that impinges on the lines is incidental. Moreover, forming the contact openings in the lines would defeat the purpose of Jost, which is to contact the source/drain regions. If Jost were to form the contact openings in the lines, the source/drain regions would not be contacted and the devices would be rendered inoperable as the gate electrodes would be destroyed. Accordingly, Jost does not teach or suggest a structure with a plurality of lines and contact openings defined in the lines. Accordingly, claim 52, and all claims depending therefrom, are allowable over Jost. Applicants respectfully request the rejection of claims 52, 53, and 57-62 be withdrawn.

Moreover, claims 59-62 depend from claim 54, which was not rejected under 35 U.S.C. § 102(b). Inherently, claims 59-62 are narrower than claim 54, and accordingly cannot be anticipated if the broader parent claim is not anticipated. Accordingly, Applicants requests the rejection of claims 59-62 be withdrawn for these additional reasons.

Claims 1-65 stand rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,366,688 (Jun). Claims 54-56 stand rejected as being obvious under 35 U.S.C. § 103(a) over Jun.

Independent claims 1, 13, 23, 33, 40, 50, 51, and 63 include the general feature of illuminating a wafer having a test structure comprising a plurality of lines and a plurality of contact openings defined in the lines. Light reflected from the contact openings is measured to determine a dimension of the contact openings based on the measured reflection profile. Claim 52 is directed to the test structure.

The Office Action asserts that Jun teaches these features. To the contrary, Jun fails to teach or suggest a test structure comprising a plurality of lines and a plurality of contact openings defined in the lines. The office action cites Figures 19 and 20 as showing such a structure. However, Figures 19 and 20 illustrate a mesh structure. "The grid or mesh structure typically includes a pair of mutually orthogonal axes superimposed over the image of the portion of the wafer being analyzed." (see col. 3, lines 13-15) Hence, the grid structure shown in Figures 19 and 20 is simply an artificial grid formed on the image generated by the scanning electron microscope image of the wafer. Jun shows only a planar surface with a plurality of contact openings, not a test structure comprising a plurality of lines and a plurality of contact openings defined in the lines. Moreover, Jun employs a scanning electron microscope, not a light source, and does not generate a reflection profile, but rather, an optical image of the wafer. Accordingly, claims 1, 13, 23, 33, 40, 50, 51, 63, and all claims depending therefrom, are allowable. Applicants respectfully request the rejection of three claims be withdrawn.

Claims 66-74 were added. These claims are allowable for at least the reasons provided above for their respective parent claims. Furthermore, they include the additional feature that each line has a width and each contact opening has a diameter less than the width of the line in which it is defined. None of the cited art includes this feature. Accordingly, claims 66-74 are themselves allowable.

In view of the remarks set forth herein, the application is believed to be in condition for allowance and notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to contact the undersigned attorney with any questions, comments or suggestions relating to the referenced patent application.

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Respectfully submitted,



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